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May 19, 1994

The Hon. Reed E. Hundt
The Hon. James H. Quello
The Hon. Andrew C. Barrett
Federal Communications Commission
1919 M Street, N.W., Eighth Floor
Washington, D.C. 20554

Re: American Personal Communications
Reply to En Banc Hearing Comments
Gen. Docket 90-314

Dear Chairman Hundt, Commissioner Quello
and Commissioner Barrett:

The record of the Commission's en banc hearing and the voluminous four-year administrative record compiled in this proceeding overwhelmingly demonstrate the need for significant spectrum allocations -- 30 MHz blocks -- for PCS. This fact apparently has been recognized by AirTouch Communications, which ardently advocated 20 MHz PCS allocations at the en banc hearing but wisely abandoned that position in favor of advocating 30 MHz PCS licenses in the 1850-1970 MHz band.[1/] The 20 MHz argument has been, from the very beginning, only an attempt to prevent PCS from competing with cellular in the near term and having the capacity to compete in the local exchange in the longer term.

The need for 30 MHz allocations now should be considered settled. Similarly, the need for major trading area ("MTA") licensing has never been more compellingly demonstrated than at the en banc hearing, during which even CTIA's own witnesses supported MTA licensing. But those who

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[1/] See Letter from Kathleen Q. Abernathy, AirTouch Communications, to William F. Caton, May 6, 1994. Although its own filing lists "wide geographic presence" as one of AirTouch's key attributes as a "future PCS operator" and admits that a typical consumer would demand "good coverage everywhere I normally drive," AirTouch persists in arguing in favor of basic trading areas ("BTAs"). As even a cursory review of the en banc hearing record indicates, however, all-BTA license structures are virtually unsupported.

insist upon minimizing PCS to protect their own entrenched duopoly positions -- notably CTIA and Bell Atlantic -- have continued to argue in post-hearing submissions that PCS must be limited to too-small spectrum blocks.

The attached Engineering Statement of J. Barclay Jones, vice president for engineering for American Personal Communications ("APC"), responds once more to Bell Atlantic's attempts to prop up its transparent arguments supporting 20 MHz allocations. As Mr. Jones points out, the plain fact is that no study establishing the real-world validity of 20 MHz PCS allocations in the 1850-1970 MHz band has been submitted by any party during the four-year history of this docket.

And CTIA's comments are simply unsupported in the record of the Commission's en banc proceeding. To begin with, it is absurd for CTIA to claim that cellular's 10- to 15-year head-start over new PCS operators can be compared to the brief wireline cellular head-start (usually of a few months' duration) that the Commission tolerated when cellular was being launched in the early 1980s. As Mercer Management Consulting recently pointed out, cellular's head-start advantage over PCS is tremendous. See The Making of Wireless Competition: A Delicate Balance Where Less Means More for Consumers, p. 4 (Gen. Docket 90-314, submitted by APC, May 10, 1994). Although CTIA's analysis of the growth of non-AT&T telephony from 1894 to 1907 is interesting as a bit of historical trivia, today's reality is that cellular is obtaining *14,000 new customers per day*.[2/] Cellular firms also have unparalleled name recognition, locked-up distribution channels, existing infrastructure, long-standing relationships with equipment suppliers and others, and, of course, clear, unencumbered spectrum. A licensing scheme that would require significant after-auction aggregation of spectrum blocks and licensing areas (as would CTIA's scheme), with concomitant years of delay for new PCS operators, would produce a cellular

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[2/] CTIA's admissions that cellular customers "have no commitment to cellular" because of bundling and "churn" away from cellular at the rate of 15.6 percent per year are remarkable but irrelevant. Even assuming the "churn" rate continues as cellular digitalizes, cellular nonetheless would retain some 84.4 percent of 14,000 new customers per day, an imposing customer base for a new competitor to confront.

head-start that would be insurmountable for nascent PCS operations. The potential for PCS to compete with cellular and eventually in the local loop would be lost, and the public would suffer permanent injury.

CTIA's flip statement that "interference [from microwave incumbents] is not a problem" borders on an intentional attempt to mislead the Commission.[3/] The fact is that more than 20,000 microwave incumbents will be able to retain their current allocations -- and prevent PCS operations over large swaths of spectrum and territory -- for between three and five years. CTIA selectively quotes from two of the most progressive microwave users -- Baltimore Gas & Electric ("BG&E"), which also is a telecommunications company with extensive fiber holdings, and Tampa Electric Company ("TECO") -- as evidence that the remaining thousands of microwave users will be more than pleased to relocate to other spectrum. But CTIA does not and cannot establish that these two forward-thinking utilities speak for all 2 GHz incumbents.[4/]

Without question, some utilities will be pleased to pursue PCS-related opportunities and relocate to alternative bands or media. But not all will be willing or able to do so,

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[3/] Similarly, CTIA's old claim that a significant amount of spectrum must be reserved ad infinitum for serving analog cellular customers is unfounded, as we have pointed out before. Now, however, CTIA has admitted that cellular customers have "no commitment" to cellular because their equipment often is bundled with service packages and thus priced at near zero dollars. Given that stance on behalf of some in the cellular industry, it must follow that cellular subscribers easily could be offered bundled digital equipment so that cellular operators could make maximum spectrum available for digital operations and thus minimize the amount of spectrum that they wish to reserve for analog customers.

[4/] BG&E is a particularly unique case. Unlike most incumbents, BG&E has been exploring PCS issues for years (and was, in fact, introduced to these issues largely by APC's experimental efforts and PCS systems in the Baltimore, Maryland area). In fact, the letter CTIA submits from BG&E to APC is dated April 9, 1992, demonstrating the length of time BG&E has been involved with PCS issues.

especially in the near term, and CTIA conspicuously avoids discussing the willingness of public safety organizations, state and local governments, and the petroleum industry to simply vacate the spectrum band that they fought so hard to retain in the legislative battle of 1992. The fact is that microwave relocation will require years of hard work, as Jeff Rosenblatt of Comsearch established conclusively at the en banc hearing and as has been demonstrated in the record time and time again.[5/] In many markets throughout the country, it will not be easy; it will not be fast; it will not be inexpensive; and it will not be possible without Commission intervention. Spectrum allocations that ignore microwave incumbency would have only one effect -- to ensure that the cellular duopoly is the sole wireless choice available to consumers for years to come. Although this result would serve CTIA's constituency, it would disserve and disadvantage the American public.

* * *

One element of Bell Atlantic's April 22 filing deserves particular mention. APC applied for an initial PCS authorization some four months ago, and Bell Atlantic has objected strenuously to that application being placed on public notice.[6/] Even though Bell Atlantic wishes to prevent others from commenting on the merits of APC's application by urging the Commission not to place it on public notice, Bell Atlantic itself quotes at length from APC's application in its post-hearing submission.[7/] The fact that the very party that is most opposed to permitting public access to APC's PCS application now has obtained it and publicly commented on its merits provides further support for APC's position that its application should be accepted and made public as quickly as possible. Acceptance of APC's application would permit those that do not have the resources and access of Bell Atlantic to

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[5/] See PCS Action, Inc., White Paper on PCS Spectrum Issues, pp. 8-11 (Gen. Docket 90-314, July 21, 1993).

[6/] See Letter from Gary M. Epstein to William F. Caton, March 16, 1994.

[7/] Mr. Jones responds to Bell Atlantic's misuse of APC's PCS application in the attached Engineering Statement.

obtain copies of APC's application and comment fully and openly on the contents of that application.

Respectfully submitted,

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Attachment

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Engineering Statement of J. Barclay Jones

I. Introduction

This Engineering Statement responds to certain statements made in the "Overview of PCS Spectrum Needs" ("Overview") by Dr. Charles Jackson and Professor Raymond Pickholtz filed April 22, 1994 by counsel for Bell Atlantic Personal Communications, Inc. ("Bell Atlantic"). In general terms, the Overview is simply a re-hashing of the same statements, unsupported by technical showings, that Bell Atlantic has already filed in this proceeding and to which APC already has effectively responded. However, APC feels obligated to respond to some of the statements in the Overview.

II. Spectrum sharing between PCS and microwave incumbents has been well documented. APC has contributed significantly to this documentation and has demonstrated the need for PCS allocations in the 1850-1990 MHz band with a minimum of 30 MHz.

In their conclusion, the authors of the Overview make the preposterous statement that APC "essentially agrees" that microwave sharing problems have been "vastly overstated." Those familiar with the various PCS proceedings know that APC has devoted tremendous resources to analyzing spectrum sharing issues in the 1850-1990 MHz band. APC's studies have been cited by the Commission as being instrumental in frequency allocation decisions. APC's studies have been based upon sound engineering criteria and have withstood the scrutiny of multiple rounds of pleadings over the past four years.

If Bell Atlantic truly believes that PCS can be accommodated in a 20 MHz allocation, it has had four years in which to submit a supporting technical study. Of course, such a study would have been subjected to the scrutiny of PCS proponents, microwave incumbents, federal regulators, Congress and other interested parties. The fact is, no study has ever been filed in this proceeding demonstrating that full mobility, wide area PCS systems can be accommodated in 20 MHz allocations in the 1850-1990 MHz band. No such study has been filed because the facts do not support the premise.[1/]

[1/] The authors cite an August 1993 Comsearch study of Detroit. As demonstrated in APC's analysis of that study, 20 MHz PCS allocations leave large areas of Detroit with no spectrum at all available for PCS. That study further showed that 20 MHz PCS allocations forced PCS operators to relocate 22 microwave links before any PCS operations could begin. Despite the "spin" Bell Atlantic put on that study, the facts remain the same.

APC's work in spectrum sharing has led to the inescapable conclusion that a minimum of 30 MHz is required to allow full mobility, wide-area PCS systems to be deployed in the 1850-1990 MHz band. Initially, 30 MHz is required to engineer frequency use around microwave incumbents where it is possible and relocate incumbents where it is not. Ultimately, as microwave incumbents are relocated from the band on a realistic schedule, 30 MHz is required for PCS systems to meet consumer requirements for high-quality voice service as demand increases and to provide broadband data services and competition for the local loop monopoly.

A minimum of 30 MHz is required for initial PCS deployment because of the wide IF filter bandwidths utilized by microwave incumbents, as Mr. Rosenblatt pointed out in his testimony before the PCS Task Force and as the authors have cited in the Overview. Because of these filters, it is necessary to take advantage of every possible mechanism, including obstructions and microwave relocations, to allow PCS systems to be deployed with 30 MHz. This fact was discussed in APC's Application for Initial Authorization filed January 18, 1994 in reference to PathGuard™ and is cited by the authors in the Overview. PathGuard™ allows PCS systems to take advantage of real world conditions, unaccounted for in theoretical predictions, to maximize frequency availability. This technique does not demonstrate that 20 MHz allocations would be sufficient; to the contrary, without such a tool, allocations of only 30 MHz would not be sufficient to implement PCS.

The full discussion of PathGuard™ in APC's application, from which the authors have quoted only selectively, in no way states that microwave sharing problems are overstated nor does it suggest that 20 MHz is a sufficient allocation for PCS. For the authors to now suggest that APC "essentially agrees" that microwave sharing problems have been "vastly overstated" is simply absurd. Furthermore, it is clearly untrue that APC has "adopted" the views of the authors.

The authors also use a deceptive and superficial play on words to claim that APC somehow "reversed" its assumptions in its 1991 and 1992 studies. The authors claim that in 1991 APC "overestimated" microwave protection and then in 1992 "underestimated" PCS spectrum availability. As APC has demonstrated in numerous filings, these studies are based upon sound engineering judgment and have withstood the intense scrutiny of this PCS proceeding. If, however, one were to overestimate microwave protection, one would automatically underestimate PCS spectrum availability. This is simply two ways of saying the same thing. There is no reversal of assumptions.

III. The TIA Committee TR14.11 responsible for TSB-10-E (Bulletin 10) is open to any and all credible presentations on interference criteria.

In the Overview, as in previous filings, the authors complain about the "severe" interference rules contained in EIA TSB-10E ("Bulletin 10").[2/] APC suggests that if the authors have a sound technical basis for modifying the interference criteria contained in Bulletin 10, they should present these findings to the Bulletin 10 committee. APC has found the committee to be open and fair but has found neither Dr. Jackson nor Professor Pickholtz (or any other representative of Bell Atlantic) to presenting useful material to the Bulletin 10A Committee. Absent such an effort, the authors have no grounds for complaining about these interference criteria.

2/ TSB-10-F now is out for balloting.